

Page 13, replace the second paragraph beginning on line 12 as follows:

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--During phase 3, shown in Figure 4D, the piston 44 of the working cylinder descends by 100 μ m, to avoid compacting the edges of the working cylinder 38. The roller 94, as well as the screed 90, return to the initial position shown in Figure 4A.--

IN THE CLAIMS:

Cancel claims 1-5.

Add the following new claims:

--13. (new) A process for the rapid prototyping by sintering in solid phase, with a laser, of a powder or a mixture of powders, comprising the steps of:

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1/ obtaining a series of digitized superposed sections of an object to be produced, from a three-dimensional representation of said object;

2/ spreading the powder or mixture of powders in the form of a thin layer and heating the layer to a temperature near the sintering temperature in solid phase of said powder or said mixture of powders;

3/ bringing the heated layer to the sintering temperature by sweeping with a laser beam said layer such that a selected portion of the powder, which corresponds to one of the

digitized sections of the object to be produced, is sintered in solid phase by the supplemental energy supplied by the laser, and repeating steps 2 and 3 until all the digitized superposed sections of the object to be produced are obtained.

--14. (new) The process according to claim 13, wherein the powder or mixture of powders consists of ceramic material.

C¹ --15. (new) The process according to claim 14, wherein the powder or mixture of powders is heated and held at a temperature of the order of 300°C to 900°C.

--16. (new) The process according to claim 14, wherein the laser comprises a pulsed YAG laser having a wavelength of emitted radiation near infrared.

--17. (new) A process for the rapid prototyping by sintering in solid phase, with a laser, of a powder or a mixture of powders, comprising the steps of:

1/ obtaining a series of digitized superposed sections of an object to be produced, from a three-dimensional representation of said object;

2/ spreading the powder or mixture of powders in the form of a thin layer and heating the layer to a temperature near

the sintering temperature in solid phase of said powder or said mixture of powders;

3/ increasing the density of the heated powder of the layer;

4/ bringing the densified and heated layer to the sintering temperature by sweeping with a laser beam said layer such that a selected portion of the powder, which corresponds to one of the digitized sections of the object to be produced, is sintered in solid phase by the supplemental energy supplied by the laser; and

repeating steps 2, 3 and 4 until all the digitized superposed sections of the object to be produced are obtained.

--18. (new) The process according to claim 17, wherein the powder or mixture of powders consists of ceramic material.

--19. (new) The process according to claim 18, wherein the powder or mixture of powders is heated and held at a temperature of the order of 300°C to 900°C.

--20. (new) The process according to claim 18, wherein the laser comprises a pulsed YAG laser having a wavelength of emitted radiation near infrared.--